2005 Integrated Energy Policy Report

Integrated Energy Policy Report Committee:

Commissioner John L. Geesman, Presiding Member
Commissioner James D. Boyd, Associate Member

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Agenda

October 6, 2005

- **Overview of *Draft Energy Report* chapters:**
  - **Ch. 4 Demand Side Resources, Distributed Generation, and Other Electricity Supplies**
  - **Ch. 6 Renewable Resources for Electricity Generation**
- **Receive comments on those topics**
- **Written comments due:** *October 14*

2005 Energy Report
Hearing Schedule

September 23, 9 a.m.	***Draft Strategic Transmission Plan***
September 27, 1 p.m.	***Water/ Energy, Global Climate Change, and Border Energy***
September 29, 1 p.m.	**Transportation**
October 6, 9 a.m.	Demand-side Resources, Distributed Generation, Renewable Resources, and other Electricity Resources (Clean Coal and Nuclear)
October 7, 9 a.m.	**Electricity Needs & Procurement Policies, and Transmission**
October 7, 1 p.m.	**Natural Gas**

2005 Energy Report Schedule

October 14:	Written comments due
Early November:	Publish the Final Committee *Energy Report, Transmission Strategic Plan*, and *Transmittal Report*
November 16:	Energy Commission Business Meeting to consider adoption of the *2005 Energy Report*, *Transmission Strategic Plan*, and *Transmittal Report*
Early December:	Deliver report to Governor and Legislature

Energy Report Process
Public Resources Code 2300 *et seq.*

Integrated policy development

- **Policy recommendations will be made based on an in depth and integrated analysis of energy issues facing the state. (Pub. Res. Code 25302(b))**

Common information base for energy agencies

- **The state's energy agencies will use the information and analyses contained in the report to carry out their energy-related duties. (Pub. Res. Code 25302(f))**

Timing

- **A policy report that includes an in depth assessment and forecasts of all energy sectors will be adopted by the Energy Commission every two years, and a supplement to the previous energy report on specific issues will be adopted in the off years.**

2005 Energy Report Proceeding

- Collaboration with federal, state and local agencies
- 50+ Committee hearings and workshops
- 25,000+ pages of docketed materials
- More than 50 staff and consultant papers and reports
- Three Draft Committee Reports
  - ***2005 Energy Report***
  - ***Strategic Transmission Investment Plan***
  - ***Transmittal Report to CPUC (coming soon)***

Draft Energy Report

California's Loading Order

Current Setting

- Loading order adopted in 2003 *Energy Action Plan* and foundation for recommendations in *2003 Energy Report.*
- Increase energy efficiency and demand response while meeting new generation needs first with renewable and distributed generation resources followed by clean fossil-fueled generation.

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Energy Efficiency

Current Setting

- California is a national leader in energy efficiency and conservation measures.
- CPUC adopted aggressive energy efficiency goals in 2004 and recently authorized $2 billion for efficiency programs in 2006-2008.
- If goals are met, energy savings will represent more than half the investor-owned utilities' needs for additional electricity between 2004 and 2013.

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Energy Efficiency

Key recommendations

- Evaluate, measure, and monitor energy efficiency programs to ensure that projected savings are achieved, public funds are prudently spent, and utility planners have accurate information for procurement planning
- Focus energy efficiency portfolios on programs that achieve peak savings
- Establish efficiency goals and reporting requirements for publicly owned utilities consistent with those adopted for investor-owned utilities
- Establish a “balancing account” structure for utility efficiency budgets that allows funding transfers between programs in response to market demand.

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Demand Response

Current Setting

- Two types of programs:
  - Price sensitive programs provide financial incentives to reduce loads when prices and demand are high.
  - Reliability programs provide non-price signals to reduce demand when the system is strained.
- In 2003, CPUC set annual demand response goals for IOUs, but goals have not been achieved; no goals established for publicly owned utilities.
- CPUC decision on critical peak pricing tariffs for large customers expected in early 2006, and IOUs have filed plans to install advanced metering infrastructure.

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Demand Response

Key recommendations

- Implement default dynamic rates for large customers and develop advanced metering infrastructure for all customers.
- Develop goals for publicly owned utilities consistent with those adopted for investor-owned utilities by the end of 2006.
- Establish demand response reporting requirement for publicly owned utilities to allow comparison with other demand response efforts in the state.
- Determine the appropriate mix of voluntary and mandatory demand response programs, as well as the right mix of price-sensitive and reliability programs.

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Distributed Generation/Cogeneration

Current Setting

- DG broadly defined as electricity produced on-site or close to a load center that is also interconnected to utility distribution system.
- Most efficient and cost-effective form is cogeneration or combined heat and power (CHP).
- Market potential for CHP as high as 5,400 MW.
- Barriers to CHP deployment include:
  - Difficulty in selling excess power
  - Complexity and cost of complying with CA ISO tariff requirements
  - Inability to renew existing QF contracts with utilities
  - Impacts on distribution system operations, reliability, and safety.

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Distributed Generation/Cogeneration

Key recommendations

- Separate CHP from DG in next *Energy Action Plan* so that CHP issues and strategies are not subsumed by broader DG issues and strategies.
- Improve access to wholesale energy markets and ability to secure long-term utility contracts.
- Compensate IOUs for revenue shortfalls to make them neutral to the deployment of DG and CHP, and require utilities to design and construct distribution systems that are more DG and CHP compatible.
- Translate goal of 5,400 MW of CHP by 2020 into yearly IOU procurement targets.
- Explore production credits for CO2 reductions provided by CHP and direct utilities to provide transmission and distribution capacity payments for CHP projects.

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Advanced Coal Technologies

Current Setting

- In 2004, nearly 20% of retail electricity sales in California came from coal-fired generation (mostly LADWP and SCE).
- CO2 adder imposed by CPUC for utility evaluation of procurement contracts focused attention on potential future costs of greenhouse gas retrofits or offsets for coal-fired power plants and potential influence of utility procurement on the development of “clean coal” technologies.
- “Clean coal” plants have very low SO2, NOx, and particulate emissions relative to conventional pulverized coal plants.
- Plant types considered “clean” include integrated gasification combined cycle, pulverized coal with “ultra-supercritical” main steam conditions, and circulating fluidized-bed combustion plants with supercritical main steam conditions.
- Governor Schwarzenegger supports continued research and development into clean coal technology toward zero-emission operation.

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Advanced Coal Technologies

Key recommendations

- Focus on long-term R&D for clean coal technologies that integrates CO2 sequestration with development of advanced combustion technologies.
- Specify a greenhouse gas performance standard to be applied to all utility procurement, (in-state, out-of-state, coal, and non-coal), without burdening interstate commerce or discriminating against particular technologies or fuels.
- Set greenhouse gas performance standards for utility procurement no looser than levels achieved by a new combined-cycle natural gas turbine, and consider what role, if any, greenhouse gas emission offsets should play in complying with these standards.

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Nuclear Power

Current Setting

- New construction conditioned on Energy Commission assurances that a high-level nuclear waste disposal technology has been demonstrated and approved by the appropriate federal agency.
- No new nuclear plants have been approved or built in California since 1978.
- Existing plants face issues with transportation and disposal of spent fuel, potential extensions of operating licenses, and replacement of aging plant components.

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Nuclear Power

Key recommendations

- Reaffirm 1978 finding that high-level waste disposal technology has neither been demonstrated nor approved.
- Evaluate long-term implications with accumulation of spent fuel at California's operating plants, including a case-by-case evaluation of public safety and ratepayer costs of on-site interim storage versus transport offsite of spent fuel for interim storage.
- Evaluate increasing use of California routes for shipments of nuclear waste to and from Nevada.
- Develop a suitable framework for review of costs and benefits of license extensions, including delineation of agency responsibilities, scope of the evaluation, and criteria for assessment.

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Renewable Resources for Electricity Generation

Current Setting

- California is not on track to reach its RPS goal of 20% renewable by 2010.
- Problems with RPS program include:
  - Lack of transparency in bidding, ranking, and contracting processes
  - Administrative complexity
  - Uneven application of RPS targets and requirements to all retail sellers

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Renewable Resources for Electricity Generation

RPS key recommendations

- Simplify current RPS administration and develop a simple and transparent RPS process.
- Allow inter-utility trades, shaped products, and more flexible delivery requirements.
- Require IOUs to procure a contract risk margin of 30% to prevent under procurement, and develop standard contracts to speed up the contract negotiations.
- Establish RPS rules for ESPs and CCAs and apply RPS eligibility requirements, targets, and compliance dates to all retail sellers in California.
- Allow use of RECs on a limited basis and move toward full REC trading in the state and western region once a tracking system is operational.

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Renewable Resources for Electricity Generation

Other Barriers to Renewable Development

- Transmission access
- Integrating renewables into the transmission system
- Repowering aging wind facilities
- Reducing bird deaths associated with wind turbine operation

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Renewable Resources for Electricity Generation

Other key recommendations

- Investigate changes to CA ISO tariff to recognize "renewable trunk line" concept.
- Revise existing transmission cost adder process to reduce disincentives for renewables.
- Increase R&D efforts to understand and address the impacts of integrating intermittent resources.
- Develop new QF contracts to overcome impediments to wind repowering and take advantage of federal PTC.
- Develop statewide protocols for studying avian mortality to address site-specific impacts in individual wind resource areas.

2005 Energy Report Hearing

October 6, 2005

To call and participate
in today's meeting,
please call:

888-790-1711

Passcode: **HEARING**
Call Leader: **Kevin Kennedy**

Written comments due October 14